REMARKS

The Office Action dated August 13, 2004, has been received and carefully noted. The above amendments to the claims, and the following remarks, are submitted as a full and complete response thereto.

Claim 59 is amended to resolve informalities. No new matter has been added. Because claim 59 is not amended to overcome a statutory rejection, applicants submit that the subject matter of the claim is entitled to its full range of equivalents. Claims 1-64 are presently pending in the application and are respectfully submitted for consideration.

As a preliminary matter, the Office Action indicated that claims 56-64 are allowed, or contain allowable subject if rewritten in independent form to include all the limitations of the base claims and any intervening claims. Applicants acknowledge with appreciation the finding of allowable subject matter.

Claim 59 was objected to because of informalities. Claim 59 is amended to resolve informalities. Thus, this objection is rendered moot.

Claims 1-55 were rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over U.S. Patent No. 5,473,599 (*Li et al.*) in view of U.S. Patent No. 6,577,634 (*Tsukakoshi et al.*). The Office Action made these rejections final. The Office Action again took the position that *Li* disclosed all the elements of the rejected claims, with the exception of "replicating the received or generated routing protocol state change to the standby controller system." The Office Action again then cited *Tsukakoshi* as teaching the features missing from *Li*, and took the position that it would have been

obvious to one skilled in the art at the time the invention was made to "include the protocol state change replication of *Tsukakoshi* in the network redundancy system of *Li*." Applicants respectfully traverse and submit that the presently pending claims are neither disclosed nor suggested by the cited references, either alone or in combination.

Claim 1, upon which claims 2-7 depend, recites a method in a network device having a redundancy platform including an active controller system and a standby controller system. The method includes receiving or generating a routing protocol state change by the active controller system. The method also includes replicating, in the network device, the received or generated routing protocol state change to the standby controller system. Claims 16 and 21, upon which claims 17-20 depend, are other independent method claims that recite similar subject matter.

Claim 8, upon which claims 9-15 depend, recites a network device. The network device includes a standby controller system. The network device also includes an active controller system to receive or generate a routing protocol state change and to replicate, in the network device, the received or generated routing protocol state change to the standby controller system. Claim 26, upon which claims 27-31 depend, also recites similar subject matter.

Claim 32, upon which claims 33-35 depend, recites a machine-readable medium that provides instructions which, if executed by a processor, cause the processor to perform the operations. The operations include receiving or generating a routing protocol state change in an active system in a network device. The operations also include

replicating the received or generated routing protocol state change in a standby system in the network device.

Claim 36, upon which claims 37-43 depend, recites a network. The network includes at least one peer node. The network also includes a redundant node to communicate with the peer nodes. The redundant node has a redundancy platform including an active controller system and a standby controller system. The active controller system is to receive or generate a routing protocol state change and to replicate, in the redundant node, the received or generated routing protocol state change to the standby controller system. Claim 44, upon which claims 45-49 depend, is drawn to a network claim that recites similar subject matter.

Claim 44, upon which claims 45-49 depend, recites a network which includes at least one peer node. The network also includes a redundant node to communicate with the at least one peer node, the redundant node having a redundancy platform including an active controller system and a standby controller system, the active controller system is to receive or generate a Border Gateway Protocol state change or a Transmission Control Protocol state change and to replicate, in the redundant node, the received or generated BGP state change or TCP state change to the standby controller system.

Claim 50, upon which claims 51-52 depend, recites a method in a network device having an active system and a standby system. The method includes maintaining in realtime routing protocol state changes received or generated by the active system in the standby system. The method also includes detecting a failure in the active system. The

method also includes resuming operation by the standby controller system using the maintained routing protocol state changes.

Claim 53, upon which claims 54-55 depend, recites a network device. The network device includes a standby card. The network device also includes an active card to store persistent data, session states, and routing information and to replicate in realtime the persistent data, session states, and routing information to the standby card.

As discussed in the specification, examples of the present invention reduces service outages or degradation for a network device. The present invention also increases service availability on a network due to the reduction of software and hardware failures of the network device. Further, routing protocol states may be maintained in real time to handle the dynamic changes created by routing protocols. It is respectfully submitted that the cited references, when viewed or when combined, fail to disclose or suggest the elements of any of the presently pending claims. Therefore, the cited references fail to provide the critical and unobvious advantages discussed above.

Li relates to a standby router protocol. As summarized in the previous Response, *Li* describes a standby router from a group of routers that backs up an active router so that if the active router becomes inoperative, the standby router automatically begins emulating a virtual router. A host router of *Li* does not know which router from the group of routers is actually handling the data packets that it sends. Further, *Li* describes the routers negotiating with one another for the statuses of active and standby routers by sending three types of relevant messages: hello messages, coup messages, and resign

messages. Depending upon the current router's state and the information contained in each of these messages, a given router of *Li* may or may not change its state. If the standby router becomes inoperative or takes over for the active router, *Li* describes that the other routers in the group of routers hold an election to determine which one of the group of routers should take over for the standby router. *Li*, however, does not disclose or suggest replicating, in the network device, a received or generated routing protocol state change to the standby controller system.

Tsukakoshi relates to a method for sharing network information in a router apparatus. As summarized in the previous Response, *Tsukakoshi* describes a virtual router known as a clustered router that is a plurality of routers sharing network information that makes the plurality of routers externally appears as if it was a single virtual router. A routing protocol running in each router in the clustered router exchanges network information with other routers outside the clustered router and, when its own network information changes, notifies the network information sharing means of *Tsukakoshi* about the change. The network information sharing means generates a network information notification packet containing a routing protocol identifier and sends the packet to all routers in the clustered router. Upon receiving the network information notification packet, the network information sharing means of *Tsukakoshi* extracts updated information from the received packet and sends the extracted updated information to the corresponding routing protocol means in accordance with the routing protocol identifier. *Tsukakoshi*, however, does not disclose or suggest replicating, in the

network device, a received or generated routing protocol state change through a standby controller system.

In contrast, claim 1 recites "a network device having a redundancy platform including an active controller system and a standby controller system." Claim 1 also recites "replicating, in the network device, the received or generated routing protocol state change to the standby controller system." These features are also recited in the other pending independent claims. Applicants submit that at least these features of the independent claims are not disclosed or suggested by the cited references.

The Office Action agreed that *Li* fails to disclose or suggest "replicating, in the network device, a received or generated routing protocol state change to the standby controller system." The Office Action also agreed that *Tsukakoshi* fails to disclose or suggest this feature. The Office Action, however, alleged that *Li* and *Tsukakoshi* taught parts of this limitation, and that the combination of *Li* and *Tsukakoshi* provides "both the existence of a secondary controller system and the replication of the messages to any such device." Applicants submit the combination of the references does not disclose or suggest these features.

Applicants submit the cited references describe interactions between different routers in selecting a standby router or sending updated information to a cluster of routers. Applicants further submit that these interactions do not disclose or suggest other routers within a network not observing the switchover or replicating between the active controller system and the standby controller system, which are in a network device. The

cited references refer to interactions between separate routers, not controller systems within the same device. The active controller system and the standby controller system are not described as being limited to being separate routers. Thus, the cited references, either alone or in combination, do not disclose or suggest at least these features of the pending claims.

As noted in the previous Response, applicants submit that the pending claims are distinguishable from the cited references because the active controller system and the standby controller system are in a network device. Thus, the replicating of the received generated routing protocol state change to the standby controller system is performed in the network device and not, for example, in a clustered router sending state changes to every router. Referring to Figure 12 of *Tsukakoshi*, routers 12 include router 1 and router 2. This aspect of *Tsukakoshi* does not disclose or suggest an active controller and a standby controller in a network device.

Referring to *Li*, *Li* describes hello, coup, and resign messages negotiating with one another for the statuses of the active and standby routers. Applicants submit that this aspect of *Li* does not disclose or suggest receiving or generating a routing protocol state change by the active controller system. Applicants further submit that *Li* and *Tsukakoshi* do not disclose or suggest generating routing protocol state changes by an active controller system.

Applicants also submit that the Office Action does not provide any evidence of a motivation or suggestion to combine the references, either in the references themselves or

in the knowledge generally available to one of ordinary skill in the art. As noted above, Li describes the routers in a group hold an election to select a new standby router. Tsukakoshi describes a network information sharing means that generates a network information notification packet that is sent to all the routers in a cluster to update information. Thus, a combination of the references would result in all the routers being updated by the network device, whenever something occurs, especially a switchover. This aspect runs counter to any motivation or suggestion of a purpose to reduce the amount of updates in a network or to have the active and standby controller systems in the same network device. Thus, applicants submit that the references teach away from their combination to achieve the invention and render the references unsatisfactory for their intended purposes. "It is improper to combine references where the references teach away from their combination." *In re Grasselli*, 713 F.2d 731, 743 (Fed. Cir. 1983). Thus, the Office Action fails to provide any evidence of a motivation or suggestion to combine the references.

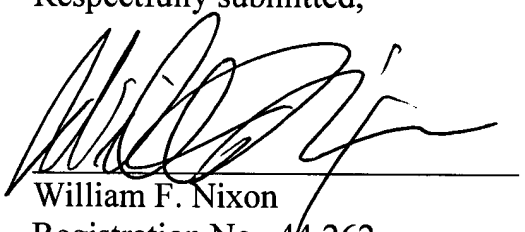
Therefore, *Li* and *Tsukakoshi* do not disclose or suggest all the features of the presently pending claims. Applicants respectfully request that the obviousness rejection be withdrawn.

It is submitted that each of claims 1-55, like allowed claims 56-64, recite subject matter that is neither disclosed nor suggested in the cited references. It is therefore respectfully requested that all of claims 1-64 be placed in condition for allowance, and this application passed to issue.

If for any reason the Examiner determines that the application is not now in condition for allowance, it is respectfully requested that the Examiner contact, by telephone, the applicants' undersigned attorney at the indicated telephone number to arrange for an interview to expedite the disposition of this application.

In the event this paper is not being timely filed, the applicants respectfully petition for an appropriate extension of time. Any fees for such an extension together with any additional fees may be charged to Counsel's Deposit Account 50-2222.

Respectfully submitted,



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